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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/711,835

10/08/2004

Ta-Jung Su

13129-US-PA

5834

31561

7590

09/01/2006

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE  
7 FLOOR-1, NO. 100  
ROOSEVELT ROAD, SECTION 2  
TAIPEI, 100  
TAIWAN

EXAMINER

NGUYEN, THANH T

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/711,835	SU ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thanh T. Nguyen	2813	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) none is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Oath/Declaration***

Oath/Declaration filed on 10/8/04 has been considered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5-6, 13-14, 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahata et al. (JP Patent No. 05-257167).

Referring to figures 1-4, Takahata et al. teach method of fabricating a gate, comprising the steps of:

providing a substrate (see figure 1a, claim 1, glass substrate);

forming a patterned mask layer over the substrate (see figure 1a and abstract, photoresist mask), wherein the patterned mask layer exposes an area on the substrate for forming the gate (see figure 1a);

forming a gate (Al, see figure 1b) on the substrate within the exposed area; and

removing the mask layer (see figure 1c).

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regarding to claims 2, 8, 14, wherein the step of forming the gate further comprises a step of forming a metallic layer (Al is a metal material) over the mask layer and inside the exposed area such that the metallic layer formed over the mask layer is apart from the metallic layer formed inside the exposed area (see figure 1b).

regarding to claims 5, 11, 17, wherein the step of forming the gate comprises performing a physical vapor deposition process (sputtering technique is PVD, see abstract).

Regarding to claim 6, 12, 18, wherein the mask layer comprises a photoresist layer (see figure 1a, and abstract).

Regarding to claim 13. A method of fabricating a pixel unit, comprising the steps of:

providing a substrate(see figure 1a, claim 1, glass substrate;

forming a patterned mask layer over the substrate (see figure 1a and abstract, photoresist mask), wherein the patterned mask layer exposes an area on the substrate for forming the gate(see figure 1a);

forming a gate (Al, see figure 1b) on the substrate within the exposed area;

removing the mask layer (see figure 1c)

forming an insulating layer (SiN, see figure 2a) over the substrate to cover the gate;

forming a channel layer (a-Si, see figure 2b) over the insulating layer above the gate;

forming a source and a drain (Cr, see figure 3b) over the channel layer.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4, 7-12, 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahata et al. (JP Patent No. 05-257167) as applied to claims 1-2, 5-6, 13-14, 17-18 above in view of Lee et al. (U.S. Patent Publication No. 2006/0163582).

Takahata et al. teaches a method of forming a thin film transistor as described in the claimed invention above. However, the reference does not teach the step of forming the oxidation-resistant layer is selected from a group consisting of an alloy of metals and a metal silicide compound after forming the metallic layer, and forming a passivation layer over the substrate, wherein the passivation layer has an opening that exposes a portion of the drain; and forming a pixel electrode over the passivation layer such that the pixel electrode is electrically connected to the drain via the opening. Nevertheless, the process is known in fabricating a thin film transistor as evidenced by Lee et al..

Lee et al. teaches the step of forming the oxidation-resistant layer is selected from a group consisting of an alloy of metals and a metal silicide compound after forming the metallic layer (see paragraphs# 47-48, 70, see figures 5a-5b), and forming a passivation layer (70) over the substrate, wherein the passivation layer (70) has an opening (76) that exposes a portion of the drain (66, see figure 5a); and forming a pixel electrode (82, see figure 5a) over the passivation

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layer (70) such that the pixel electrode (82) is electrically connected to the drain (66) via the opening (70, see figure 5b).

Therefore, it would have been obvious to a person of ordinary skill in the requisite art at the time of the invention was made would the step of forming the oxidation-resistant layer is selected from a group consisting of an alloy of metals and a metal silicide compound after forming the metallic layer, and forming a passivation layer over the substrate, wherein the passivation layer has an opening that exposes a portion of the drain; and forming a pixel electrode over the passivation layer such that the pixel electrode is electrically connected to the drain via the opening in process of Takahata et al. in process of Lee et al. because the process is known the semiconductor art to fabricating a thin film transistor to provide superior adhesion ability to the substrate and diffusion resistance.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Nguyen whose telephone number is (571) 272-1695, or by Email via address Thanh.Nguyen@uspto.gov. The examiner can normally be reached on Monday-Thursday from 6:00AM to 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr., can be reached on (571) 272-1702. The fax phone number for this Group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pairdirect.uspto.gov>. Should you have questions on access to thy Private PAIR system, contact the Electronic Business center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Thanh', with a long, sweeping horizontal stroke extending to the left.

Thanh Nguyen  
Patent Examiner  
Patent Examining Group 2800

TTN